

WHAT IS CLAIMED IS:

1. A sheet punching device that cuts holes in a sheet while punches are entering die holes, wherein a plurality of punch trains along each of which a plurality of punches are aligned on a rotating shaft in parallel with the rotating shaft are disposed in a rotation direction of said rotating shaft, and the die holes are disposed in correspondence with said punches of said punch trains.

10

2. The sheet punching device as claimed in claim 1, wherein a number of punches is identical in each of said punch trains, and said punches are disposed on the same positions in the rotation direction of said rotating shaft in each of said punch trains.

15

3. The sheet punching device as claimed in claim 2, wherein said rotating shaft is rotatable in a same direction, and two punch trains are disposed on said rotating shaft at an angle of about 180° with respect to each other in the rotation direction, and the number of punches in each of said punch trains is two.

20

4. The sheet punching device as claimed in claim 1, wherein a number of punches on said punch trains is different in each of said punch trains.

5. The sheet punching device as claimed in claim
4, wherein said rotating shaft is rotatable in a same
direction, and two punch trains are disposed on said
rotating shaft at an angle of about 180° with respect
5 to each other in the rotation direction, and a number
of punches in one of said two punch trains is two, and
a number of punches in the other punch train is three.

10 6. The sheet punching device as claimed in claim
2, wherein two hole trains are formed in said dies, and
wherein

20 said punches and said dies rotate and cut holes in
synchronism with each other.

15 7. The sheet punching device as claimed in claim
2, wherein one hole train is formed in said dies, and
wherein

20 said punches rotate through a given angle to
position said punches and the holes, and said punches
cut holes in the sheet while reciprocating.

25 8. The sheet punching device as claimed in claim
4, wherein two hole trains are formed in said dies, and
wherein
25 said punches and said dies rotate and cut holes in
synchronism with each other.

9. The sheet punching device as claimed in claim
4, wherein one hole train is formed in said dies, and
wherein

5 said punches rotate through a given angle to
position said punches and the holes, and said punches
cut holes in the sheet while reciprocating.

10. The sheet punching device as claimed in claim
8, wherein two die trains and two punch trains are
10 formed at an angle of 180° with respect to each other,
and punch the sheet on its trailing end in a sheet
conveying direction, and wherein

after a first hole train is punched, the sheet
completes through-pass.

15

11. The sheet punching device as claimed in claim
10, wherein said punches include an angle detecting
sensor.

20

12. An image forming apparatus comprising:
sheet stacking means on which sheets are stacked;
image forming means for forming an image on a
sheet supplied from said sheet stacking means; and
a sheet punching device as defined in any one of
25 claims 1 to 11 for cutting a hole in the sheet on which
the image has been formed by said image forming means.